JOHN FINDORAK & SONS, INC.

Well Drilling Since 1925
36 Coley Road • Wilton, CT 06897

June 18, 2009

STATE STATE OF STATE

LEGAL DIVISION ONSUMER PROTECTION Section (C)

Dear Ms. Nahas.

165 Capital Ave. Hartford, CT. 06106

Elisa Nahas, Legal Director

Department of Consumer Protection

I attended the June 8 meeting concerning DX and would like to follow up with some comments.

I run a small full service drilling and pump company in Fairfield county. We drill water wells, all type geothermal boreholes, and construction drilling. We are licensed as drillers through DCP. I am certified by the NGWA as a driller and pump installer. I am also the immediate past president of the CT water well association.

We have been working with a local Fairfield county contractor drilling deep hole DX boreholes for 5 years. We drill a normal borehole, set 6 inch steel casing with a drive shoe into bedrock and grout it just like a traditional water well. Our DX holes are unique in that they often run to 360ft. The copper tubes are carefully inserted in the boreholes and grouted with mix 111 grout.

My observations of these systems are as follows:

- The technology is sound as we have not heard of anyone complaining the systems don't work.
- DX requires far less borehole footage than conventional closed loop due to its inherent design
 efficiency. Deep hole DX requires less of a footprint, separation distance, etc. making it ideally
 suited for small lots. It creates the least amount of site disturbance.
- The copper tubing needs to be carefully installed. It is not as forgiving as HDPE thus it cannot be roughly handled.
- It does not appear possible to properly grout DX holes less than 4 inch in diameter.

My major concerns are:

The use of typical DX systems that require multiple 50-100ft small boreholes installed by blast hole drills will lead to contamination of our groundwater. There is no question. The greater the number of uncased perforations at land surface the greater the chance for contamination. These holes are too small to be grouted properly. (Proper grouting doesn't mean throwing some sand on top or a bag of cement).

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- The speaker who presented his arguments for allowing his union driller to drill holes here for DX based on his years of experience forgets an important point. Blast hole drills used in typical heavy highway operations are DESIGNED to be used only ON SOLID ROCK. Although much of CT is right on bedrock, there is plenty of it that is covered with overburden that requires a driller with multiple formation training. I have witnessed blast hole drills with their operators trying to install boreholes in WATER BEARING GRAVEL FORMATIONS IN CT with no success.
- Because these blast hole drillers are not trained to protect groundwater, there is nothing to compel them to stay away from contamination. They are also not compelled to report contamination should they discover (or drill into) some (underground oil, sewage, etc.)
- All bedrock wells are not perfect. We have many areas where caving rock formations require
 the installation of extra casing to insure loops go in undamaged. High water yields also require
 careful grouting practices to prevent contamination.
- Although I am sure copper will last many years I am concerned about loops where grout may
 not fully encapsulate the copper (If there is a partial cave in after the loop is installed but
 before the hole is grouted) will the loop prematurely degrade?
- There are copper loops made with a poly coating that in my opinion is far superior to anodes. It is more expensive and somewhat less efficient.

We need a permitting system specific to Geothermal boreholes. Reduced setbacks would be conducive to allowing greater use of energy efficient technology. We need to prevent these systems from being dug up accidentally and damaged. Location should be noted by GPS coordinates. This would make mark outs of boreholes prior to future excavations much easier.

Respectfully submitted,

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